



Installation Manual - 5365-902 Rev D
MiniProx Readers - Wiegand 5365B and Clock and Data 5368B

MiniProx Reader Installation Manual

System Overview

The MiniProx Reader is a self contained proximity Reader, frequently used in Access Control Systems. The antenna and all associated electronics are assembled in a polycarbonate housing. The Reader contains a micro-controller unit that controls an RF field that is generated at 125kHz. The Reader has a sensitive receiver circuit that detects ID card data and passes it along to the micro-controller for decoding. The Reader output is configured in the "Wiegand" style electrical interface for model 5365B and "Clock and Data" style interface for model 5368B. The Reader has a single Bicolor LED that will emit red, green or amber colors. Installation of the MiniProx Reader consists of mounting the Reader and connecting the cable to the Host via the Pigtail or Terminal strip.

Operation

Access Cards are to be presented to the front of the Reader. The LED is red when ready to read an ID card. The LED turns green when the card is read and a message is transmitted to the Host computer or interface panel. When the system is ready for another card, the LED returns to red. The LED is flashed green and the Beeper is activated for 250 milliseconds when they are controlled by the internal micro-controller. The operation of the LED and beeper is often controlled by the Host panel. If Host controlled, the operation will deviate from Host to Host. The MiniProx may be configured in the dual LED control line that allows individual control of both the red and green colors of the LED.

Parts List

	Quantity
1) MiniProx	1 (included)
2) #6-32 x 1" self tapping, Type T or 23	2 (included)
3) This Installation Sheet	1 (included)
4) Wire Splice	9 (installer supplied)
5) Grommet	1 Recommended (installer supplied)
6) DC Power Supply 4.75 to 16VDC, 50mA	1 (installer supplied)
7) Cable, 5 conductor , 22 AWG	Up to 500ft. (installer supplied) Alpha 1295C See Cable Notes
8) Box, Hazardous	1 (included on hazardous units only)

Installation Procedure: (excluding hazardous unit)

1. Determine an appropriate mounting position for the Reader. Drill two 7/64th (.109) Inch holes for mounting the Reader to the surface (see figure 1). Drill a 3/8 to 1.0 Inch hole for the cable. Place a grommet around the edge of the hole. Route the interface cable from the Reader and/or power supply to the Host. Check all electrical codes for proper cable installation.
2. There are two types of the MiniProx available, the MiniProx - Pigtail style has a 18" 10 conductor cable, and the terminal strip MiniProx has a 10 conductor terminal strip for all the connections. See the diagrams of each type below.
 - a. Pigtail - For the pigtail version, prepare the new cable by cutting the cable jacket back 1-1/4" and strip the wires 1/4". Splice the cable and the pigtail together and seal the splice. Trim and cover all conductors that are not used.
 - b. Terminal strip - For the terminal strip version, Loosen the terminal strip screws all the way out, until the top of the screw is flush with the back surface of the MiniProx. **Be careful to not turn them out further, as they are not captive, and will fall out.** Prepare the new cable by cutting the cable jacket back 1-1/4 inches and strip the wires 1/4". Twist the ends of the wires to eliminate stray strands. Form each wire into a hook, and install each wire by wrapping it around the screw.
3. Connect the Reader and Host together according to the wiring diagram with figure 3 and the Host installation guide. The legend for wiring is color coded (according to the "Wiegand Standard") for the

recommended cable, but marking the wires will make future maintenance easier. The numbering for the terminals is also shown on the back label as well as in the diagram below.

4. After wiring the Reader and power supply, the Reader is ready to be tested. Power up the Reader and the LED and Beeper will flash and beep 3 times in a sequence of two short delays and one long delay. This indicates that the micro-controller unit is working properly. Present an ID card to the Reader and the LED should momentarily turn green, indicating a read of the card. If the Reader LED is controlled by the Host refer to the Host description of the LED operation.
5. Mount the Reader with the provided screws when mounting onto metal mullions or junction boxes. On other materials use the appropriate fastener.

Dimension Diagrams, front and side views

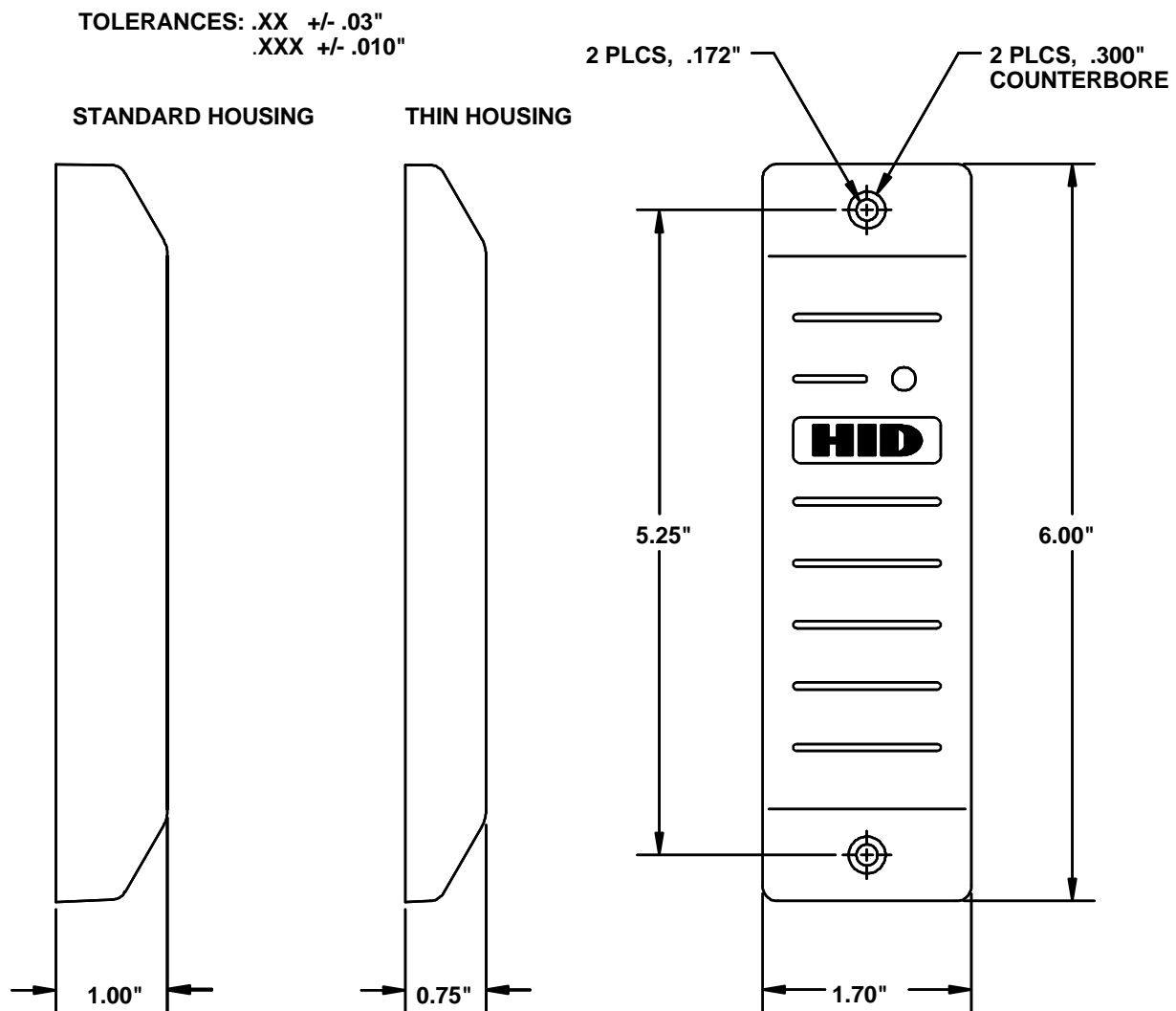


FIGURE 1

Installation Procedure: (hazardous unit)

1. Determine an appropriate location for the junction box. Attach the junction box to the mounting surface using the 4 holes shown in figure 2.
2. Route conduit and cable to the junction box per National Electric Code Article 720-2. Provide enough cable length to allow wiring of the reader assembly outside of the junction box. Route wiring from junction box through the center hole of the junction box cover.
3. Loosen the terminal strip screws until there is sufficient room to wrap a wire around the screw post. Prepare the cable by cutting the cable jacket back 1-1/4 inches and strip the wires ¼". Twist the ends of the wires to eliminate stray strands.
4. Connect the Reader and Host together according to the wiring diagram with figure 3 and the Host installation guide. The legend for wiring is color coded (according to the "Wiegand Standard") for the recommended cable, but marking the wires will make future maintenance easier. The numbering for the terminals is also shown on the back label as well as in the diagram below.
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6. Mount the junction box cover to the junction box and mount the Reader to the cover with the provided screws.

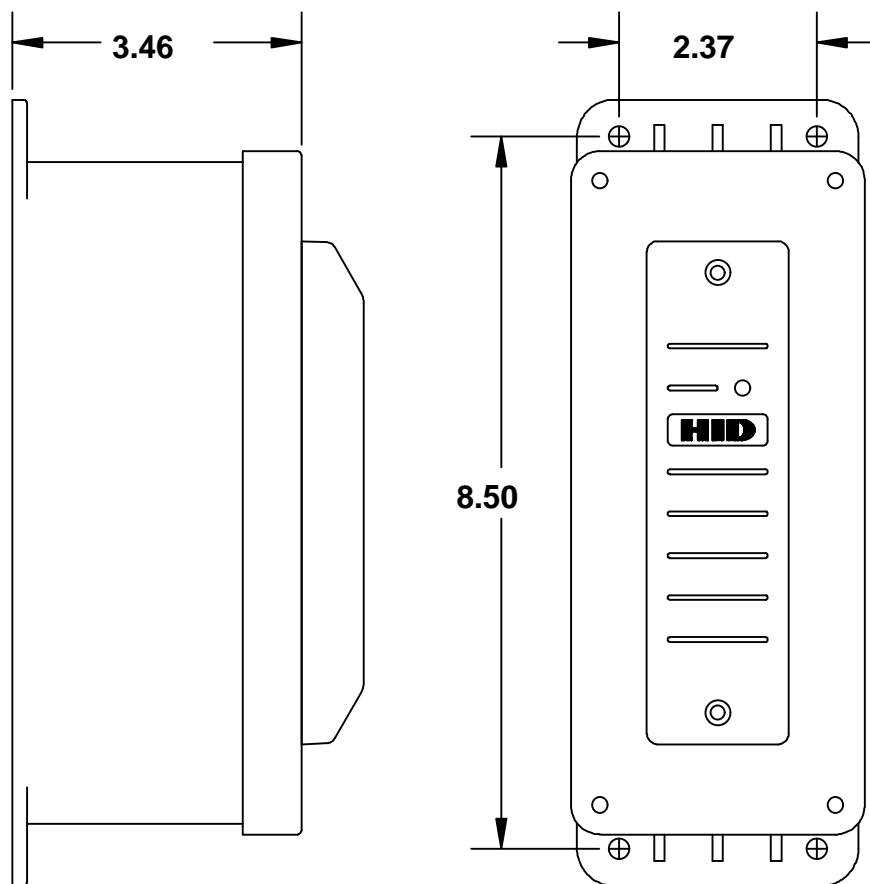


FIGURE 2

Back view, Terminal Strip and Pigtail

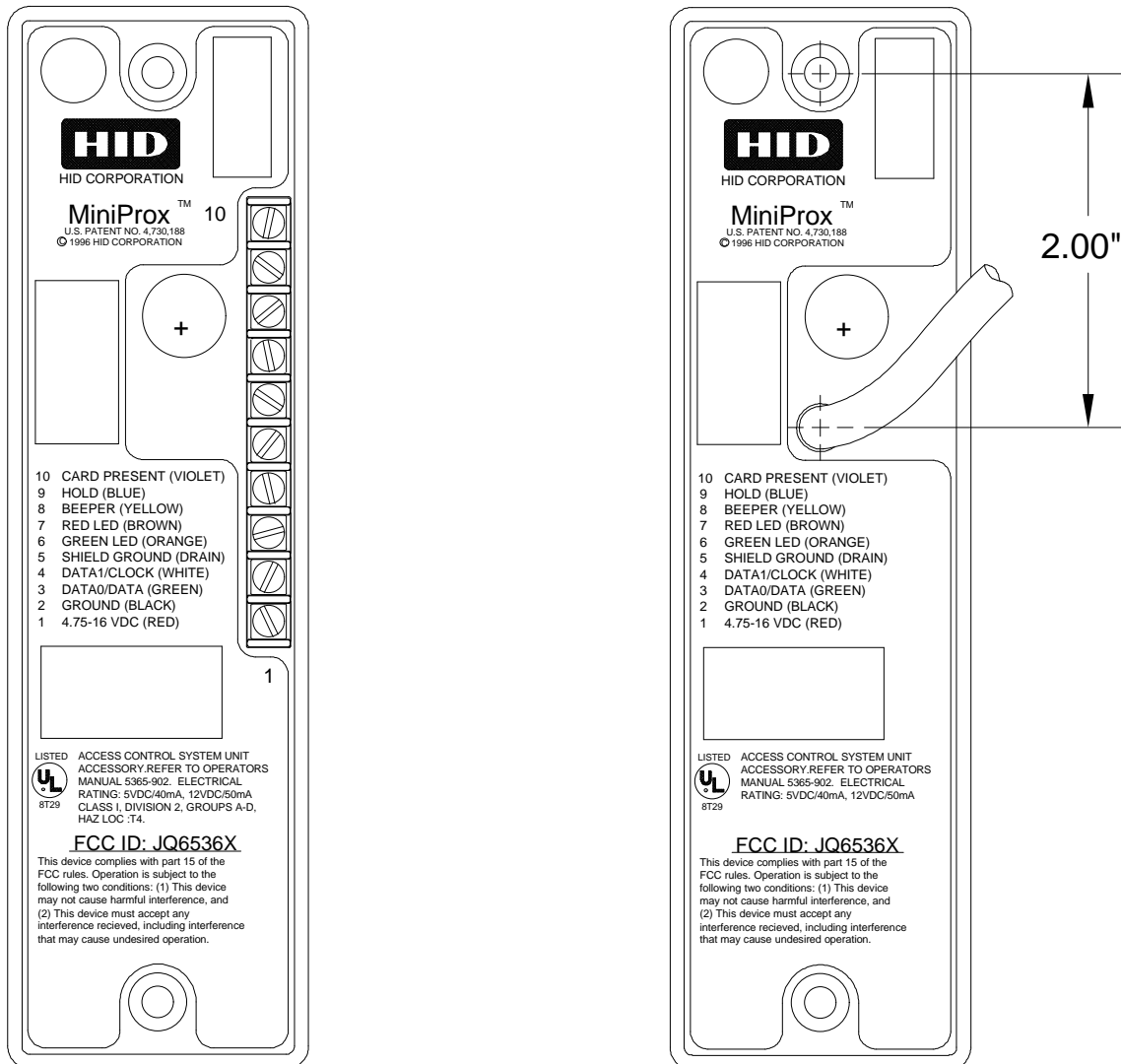


FIGURE 3

Wire Connections

1	2	3	4	5	6	7	8	9	10
+DC	Ground	Data0	Data1	Shield Ground	Green LED	Red LED	Beeper	Hold	Card Present
Red	Black	Green	White	Drain	Orange	Brown	Yellow	Blue	---

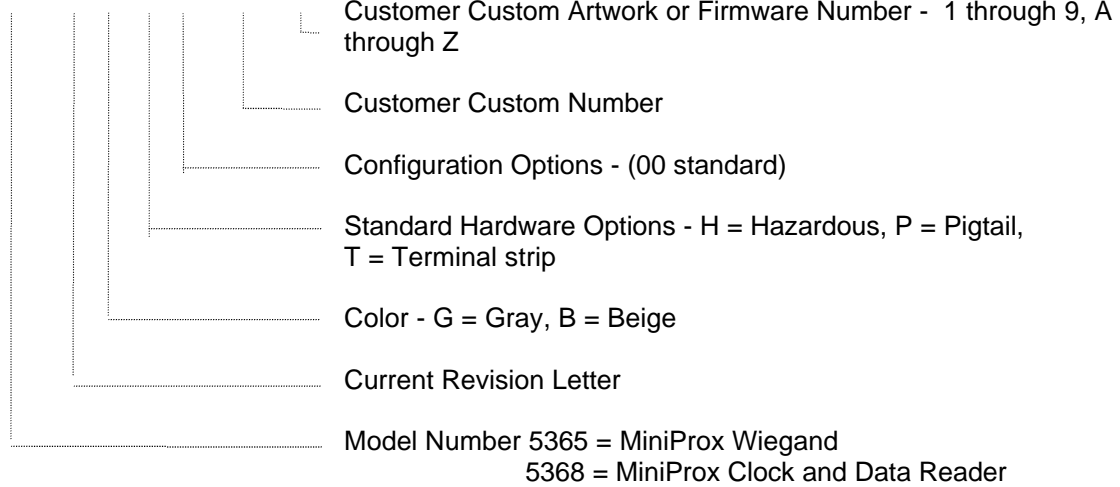
Cable Notes

- 1) Wiegand - +DC, Ground, Shield Ground, Data0 and Data1 are required for Wiegand Operation. All others (Green LED, Red LED, Beeper and Hold) are optional.
- 2) Clock and Data - +DC, Ground, Shield Ground, Data, Clock, and Card Present are required for Clock and Data Operation. All others (Green LED, Red LED, Beeper and Hold) are optional.

- 3) When using a separate power supply for the MiniProx, the power supply and Host should have a common ground (voltage reference).
- 4) If the Host is controlling the beeper, Hold, or the LEDs are configured for the dual LED mode, additional conductors will be required. The recommended cables are Alpha 1295C, 1296C, 1297C, 1298C and 1299C that are five, six, seven, eight and nine conductors respectively. Larger wire gauges are acceptable. The wire is to be stranded with an overall shield, either foil or braided.
- 5) The Cable shield should be connected to the Shield Ground on Reader TB1- 5, and left floating at the panel or power supply end of the cable. This configuration is the best for shielding the reader cable from external interference and reducing the likelihood of the Reader causing interference.

Product Configuration/Ordering Options

536X B X X XX -XXXX Y



- Standard Wiegand Part Number = 5365BGP00 is a MiniProx, Wiegand, Gray Standard (1" housing, Potted, with 10 conductor, 15" Pigtail).
- Standard Clock and Data Part Number = 5368BGP00 is a MiniProx, Clock and Data, Gray Standard (1" housing, Potted, with 10 conductor, 15" Pigtail).

Option number	Connections	Housing	Potting
"1"	Terminal strip	Standard Housing	Non-potted
"2"	Pigtail	Standard Housing	Non-potted
"3"	Pigtail	Thin Housing	Potted
"4"	Pigtail	Thin Housing	Non-potted

Product Specifications

Read Distance

- Overall Operating Limits (12VDC - minimum) 4.00 inches (10.2 cm)
- Non-Metallic Mounting (12VDC - typical) 5.0 inches (12.7 cm)
- Mounted on Metal (12VDC - typical) 5.0 inches (12.7 cm)
- Overall Operating Limits (5VDC - minimum) 2.5 inches (6.3 cm)
- Non-Metallic Mounting (5VDC - typical) 3.0 inches (7.6 cm)
- Mounted on Metal (5VDC - typical) 3.0 inches (7.6 cm)

Regulatory Requirements (applied for)

- Underwriters Laboratories listing under UL 294, Access Control Unit Accessory
- Underwriters Laboratories listing under UL 1604, Electrical equipment for use in Class I and II, Division 2 and Class III Hazardous (Classified) Locations
- UK and Germany National Type Approvals
- CE Mark - See letter of Conformance
- FCC certification

Environmental Characteristics

- Designed for listing under UL 294 “Standard for Access Control System Units”
- Operating Temperature Range -30°C to 65°C (-22°F to 150°F)
- Storage Temperature Range -40°C to 85°C (-40°F to 185°F)
- Operating Humidity Range 5% to 95% non-condensing
- Operating Vibration Limit .04 g²/Hz 20-2000Hz
- Operating Shock Limit 30g, 11mS, Half Sine
- Potting Material UL Recognized Filled Polyurethane
- Enclosure Material UL Recognized Lexan Polycarbonate
- Potted Weight - Terminal Strip/Pigtail 7.2oz (202gms) / 8.2oz (228gms)

Power Requirements

- Power supply Linear type recommended
- Operating Voltage Range (+DC) 4.75VDC -16.0VDC
- Absolute Maximum (+DC non-operating) 18.0VDC
- Maximum Average Current 5V/12V 40mA/50mA
- Transient Protection (all terminals) 8,000 volts
- Reverse Voltage Protection YES
- Input Voltage (maximum data-0/1 lines) 16.0VDC
- Input Voltage (maximum interface lines) 16.0VDC

Operating Parameters

- Excitation Frequency 125KHz
- Duty Cycle (alternate power level rate) 20% @ 60mS period
- Read and Report Speed (26 bit Wiegand Card) 175mS
- Maximum Cable Distance to Host 500 feet (152 meters)
- LED Type Bi-colored Red/Green
- LED Operation (host control of red/green) <.5V on LED control line
- Beeper Operation (host control) <.5V on beeper line
- LED Control (default) internal/single
- Beeper Control (default) Beeper enabled
- Anti-Pass Back Delay (default) 1 second
- Wiegand Data Pulse Widths (default) 40uS
- Wiegand Data Interval (default) 2mS
- Clock and Data Clock Bit time (default) 1.5mS
- Clock and Data Clock/Strobe Pulse width (default) 500uS
- Clock and Data Card Present Valid (default) Data Frame plus 1mS

NOTES: THE ABOVE ARE RECOMMENDED INSTALLATION PROCEDURES. ALL LOCAL, STATE AND NATIONAL ELECTRICAL CODES TAKE PRECEDENCE.